

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Patent Application of: Joseph G. RADZIK	)	Confirmation No.: 5169
	)	
Application No.: 09/965,983	)	Group Art Unit: 3672
	)	
Filed: 28 September 2001	)	Examiner: Collins, G.
	)	
For: FERROUS PIPE COUPLINGS AND	)	
PRELUBRICATED COUPLING GASKETS	)	

U.S. Patent and Trademark Office  
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Randolph Building  
401 Dulany Street  
Alexandria, Virginia 22314

**REPLY BRIEF UNDER 37 CFR 41.37 & 41.41**

Sir:

This Reply Brief is being submitted in response to the Examiner's Answer issued February 2, 2007. Appellant's Reply Brief is being submitted in further support of the Amended Appeal Brief filed on November 10, 2006.

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**I. REAL PARTY IN INTEREST**

Central Sprinkler Corporation, a Pennsylvania corporation having a place of business at 451 North Cannon Avenue, Lansdale, Pennsylvania 19446, as the assignee of record owns the entire right, title and interest in the captioned application and, therefore, is the real party in interest.

## **II. RELATED APPEALS AND INTERFERENCES**

Appellant is aware of no other current appeals, interferences or judicial proceedings that may be related to, directly affect or have a bearing on the Board's decision in the pending appeal.

### **III. STATUS OF CLAIMS**

Claims 1-23 are pending, stand finally rejected and are under appeal. A copy of the claims on appeal are appended to this brief.

#### **IV. STATUS OF AMENDMENTS**

All amendments of record have been entered.

## V. SUMMARY OF CLAIMED SUBJECT MATTER

Appellant's invention is directed generally to a pipe coupling for coupling various pipe components of ferrous pipe systems. Appellant has innovated a pipe coupling in which the elastomeric gasket member employs a powder coating which allows the gasket to be lubricated, then packaged or supplied at any point prior to installation thereby making coupling installation easier and less messy as compared to coupling installations using previously known lubricants.

There are four independent claims pending and all four are involved in the appeal. Independent claim 1 recites a lubricated ferrous pipe coupling gasket comprising a generally tubular, one-piece, elastomeric member with first and second axial open ends, the member being formed by a circumferential wall and at least a pair of circumferential flanges. Each flange extends at least generally radially inwardly at a separate one of the first and second axial open ends of the member. The circumferential wall and the pair of circumferential flanges form at least one circumferential channel on an inner circumferential side of the member. Further according to claim 1, the gasket includes a powder coating that provides a dry lubricant on at least the inner circumferential side of the pair flanges of the member.

Independent claim 1 is supported by the application as originally filed for example, shown in FIG. 2 of the application as originally filed, is an exploded view of a joint 19 made by a ferrous pipe coupling 16. *See* Appln. No. 09/965,983 as-filed at 4, lines 14-15, FIG. 2. The ferrous pipe coupling 16 includes a gasket 30. *See id.* at 4, lines 22-23. The gasket 30 is preferably a generally tubular, one-piece, elastomeric member including a circumferential wall 32 and a pair of circumferential flanges 33 and 34 located generally at first and second open axial ends 35, 36. *See id.* at 6, lines 1-3. Flanges 33 and 34 each extend at least radially inwardly. *See id.* at 6, line 4. The circumferential wall 32 and the pair of flanges 33 and 34 also form a circumferential channel 38 on an inner circumferential side of the gasket 30. *See id.* at 6, lines 4-6. The gasket 30 is covered with a coating of dry cornstarch powder. *See id.* page 6, line 21 to page 7, line 1. While dry, powdered cornstarch is preferred, other dry, powdered organic starches such as rice starch and potato starch might alternatively be used. *See id.* at 8, lines 17-18. In addition, a powder predominantly or essentially composed of talc, i.e. magnesium silicate hydroxide ( $\text{Mg}_3\text{Si}_4\text{O}_{10}(\text{OH})_2$ ), which is the primary ingredient of conventional talcum powder, or

that powder itself might be used as a dry lubricant. *See id.* at 8, lines 18-21. Corn, rice and potato starches, being natural ingredients derived from crops, can, with other similar naturally derived starches, be referred to generically as organic starch powder. *See id.* page 8, line 21 to page 9, line 1. The lubricant can include as a primarily component, one of the aforementioned individual materials in combination with lesser amount(s) of the other(s). *See id.* at 9, lines 1-2.

Independent claim 5 recites a ferrous pipe coupling comprising a ferrous collar having an outer, axially extending, axially split circumferential wall with at least one pair of adjoining circumferential ends at the split. In addition, the coupling of independent claim 5 includes at least one fastener releasably securing together the at least one pair of adjoining, circumferential ends of the collar. Independent claim 5 recites that the coupling further comprises a gasket in the form of a generally tubular, one-piece elastomeric member positioned in the collar and having an exposed inner circumferential side exposed in the collar, the inner circumferential side having at least one flange that forms a seal with a pipe. Independent claim 5 further recites that the coupling includes a powder coating that provides a dry lubricant on at least the exposed, inner circumferential side of the elastomeric member.

Independent claim 5 is supported by the application as originally filed. For example, again referring to FIG. 2 of the application as originally filed, shown is a joint 19 made between a first piping component, pipe length 14, and a second piping component, Tee fitting 15, by one of the ferrous couplings 16. *See* Appln. No. 09/965,983 as-filed at 4, lines 14-16, FIG. 2. Ferrous pipe coupling 16 includes a split ring ferrous collar (indicated generally at 20 in FIG. 1) preferably formed by a plurality of identical ring segments 22, which are releasably secured together end to end at pairs of adjoining circumferential ends by suitable and conventional means, in this case each fastener 29 (FIG. 1). *See id.* at 4, line 16-19, FIG 2. The split ring ferrous collar 20 has an outer axially extending, split circumferential wall 24 forming a channel 28. *See id.* at 5, lines 10-15. The ferrous pipe coupling 16 further includes a gasket 30 in the form of a generally tubular, one-piece, elastomeric member positioned in the channel 28. *See id.* at 4, lines 22-23; at 5 lines 15-16. The gasket 30 is preferably a member including circumferential wall 32 and a pair of circumferential flanges 33 and 34 located generally at first and second open axial ends 35, 36, respectively, of the circumferential wall 32 and of the gasket 30. *See id.* at 6, lines 1-4. Flanges 33 and 34 each extend generally radially inward. *See id.* at 6,

line 4. The circumferential wall 32 and the pair of flanges 33, 34 form a circumferential channel 38 on an inner circumferential side of the gasket 30. *See id.* at 6, lines 4-6. In use the gasket 20 is stretched over the end 14a or 15a of one of the piping components 14, 15. *See id.* at 6, lines 11-12. The stretched gasket 30 forms seals with both ends 14a, 15a of the components 14, 15 being joined. *See id.* at 6, lines 14-15. The gasket 30 is covered with a coating of dry cornstarch powder. *See id.* page 6, line 21 to page 7, line 1. While dry, powdered cornstarch is preferred, other dry, powdered organic starches such as rice starch and potato starch might alternatively be used. *See id.* at 8, lines 17-18. In addition, a powder predominantly or essentially composed of talc, i.e. magnesium silicate hydroxide ( $\text{Mg}_3\text{Si}_4\text{O}_{10}(\text{OH})_2$ ), which is the primary ingredient of conventional talcum powder, or that powder itself might be used as a dry lubricant. *See id.* at 8, lines 18-21. Corn, rice and potato starches, being natural ingredients derived from crops, can, with other similar naturally derived starches, be referred to generically as organic starch powder. *See id.* page 8, line 21 to page 9, line 1. The lubricant can include as a primarily component, one of the aforementioned individual materials in combination with lesser amount(s) of the other(s). *See id.* at 9, lines 1-2.

Independent claim 10 recites a ferrous piping system comprising a plurality of ferrous piping components and at least one ferrous pipe coupling mechanically and fluidly joining together ends of a pair of the piping components at a joint. Further according to independent claim 10, the ferrous pipe coupling includes a ferrous collar having an outer, axially extending and axially split, circumferential wall and at least one pair of adjoining circumferential ends at the split. The coupling further includes a gasket in the form of a generally tubular, one-piece elastomeric member having an inner circumferential side, the inner circumferential side including at least sealingly mounted on the ends of the pair of piping components and surrounded by the collar. Independent claim 10 further recites that the coupling further includes a powder coating that provides a dry lubricant at least between the at least one flange of the inner circumferential side of the gasket and the ends of the pair of piping components, and at least one fastener releasably securing together a pair of adjoining, circumferential ends of the collar so as to compress the gasket and the collar on the ends of the pair of piping components.

Independent claim 10 is supported by the application as originally filed. For example, again referring to FIG. 2 of the application as originally filed, shown is a joint 19 made between

a first piping component, pipe length 14, and a second piping component, Tee fitting 15, by one of the ferrous couplings 16. *See* Appln. No. 09/965,983 as-filed at 4, lines 14-16, FIG. 2. Ferrous pipe coupling 16 includes a split ring ferrous collar (indicated generally at 20 in FIG. 1) preferably formed by a plurality of identical ring segments 22, which are releasably secured together end to end at pairs of adjoining circumferential ends. *See id.* at 4, line 16-18, FIG. 2. The split ring ferrous collar 20 has an outer axially extending, split circumferential wall 24. *See id.* at 5, lines 10-11, FIG. 2. The ferrous pipe coupling 16 further includes a gasket 30 in the form of a generally tubular, one-piece, elastomeric member. *See id.* at 4, lines 22-23. The gasket 30 is preferably a member including circumferential wall 32 and a pair of circumferential flanges 33 and 34 located generally at first and second open axial ends 35, 36, respectively, of the circumferential wall 32 and of the gasket 30. *See id.* at 6, lines 1-4. Flanges 33 and 34 each extend generally radially inward. *See id.* at 6, line 4. The circumferential wall 32 and the pair of flanges 33, 34 form a circumferential channel 38 on an inner circumferential side of the gasket 30. *See id.* at 6, lines 4-6. In use the gasket 20 is stretched over the end 14a or 15a of one of the piping components 14, 15. *See id.* at 6, lines 11-12. The stretched gasket 30 forms seals with both ends 14a, 15a of the components 14, 15 being joined. *See id.* at 6, lines 14-15. The split ring ferrous collar 20 is then extended over and around the gasket 30. *See id.* at 6, lines 13. The gasket 30 is covered with a coating of dry cornstarch powder. *See id.* page 6, line 21 to page 7, line 1. While dry, powdered cornstarch is preferred, other dry, powdered organic starches such as rice starch and potato starch might alternatively be used. *See id.* at 8, lines 17-18. In addition, a powder predominantly or essentially composed of talc, i.e. magnesium silicate hydroxide ( $\text{Mg}_3\text{Si}_4\text{O}_{10}(\text{OH})_2$ ), which is the primary ingredient of conventional talcum powder, or that powder itself might be used as a dry lubricant. *See id.* at 8, lines 18-21. Corn, rice and potato starches, being natural ingredients derived from crops, can, with other similar naturally derived starches, be referred to generically as organic starch powder. *See id.* page 8, line 21 to page 9, line 1. The lubricant can include as a primarily component, one of the aforementioned individual materials in combination with lesser amount(s) of the other(s). *See id.* at 9, lines 1-2. The circumferential ends of the identical ring segments of ferrous collar 20 are releasably secured together end to end by suitable and conventional means, in this case each fastener 29 (FIG. 1). *See id.* at 4, lines 16-19.

The fourth independent claim, claim 16, recites that in a ferrous pipe coupling including a generally tubular, one-piece, elastomeric gasket having at least one flange, a ferrous collar surrounding the gasket, the collar including at least one axial split defining a pair of adjoining circumferential ends, and a fastener releasably securing together the adjoining circumferential ends of the collar, the improvement including a powder coating that provides a dry lubricant on at least an inner circumferential side of the at least one flange of the gasket that forms a seal with a ferrous pipe.

Independent claim 16 is supported by the application as originally filed. For example, again referring to FIG. 2 of the application as originally filed, shown is a joint 19 made between a first piping component, pipe length 14, and a second piping component, Tee fitting 15, by one of the ferrous couplings 16. *See* Appln. No. 09/965,983 as-filed at 4, lines 14-16, FIG. 2. The ferrous pipe coupling 16 includes a gasket 30. *See id.* at 4, lines 22-23. The gasket 30 is preferably a member including circumferential wall 32 and a pair of circumferential flanges 33 and 34 located generally at first and second open axial ends 35, 36, respectively, of the circumferential wall 32 and of the gasket 30. *See id.* at 6, lines 1-4. Flanges 33 and 34 each extend generally radially inward. *See id.* at 6, line 4. The circumferential wall 32 and the pair of flanges 33, 34 form a circumferential channel 38 on an inner circumferential side of the gasket 30. *See id.* at 6, lines 4-6. Ferrous pipe coupling 16 includes a split ring ferrous collar (indicated generally at 20 in FIG. 1) preferably formed by a plurality of identical ring segments 22, which are releasably secured together end to end at pairs of adjoining circumferential ends. *See id.* at 4, line 16-18, FIG. 2. The circumferential ends of the identical ring segments of ferrous collar 20 are releasably secured together end to end by suitable and conventional means, in this case each fastener 29 (FIG. 1). *See id.* at 4, lines 16-19. The split ring ferrous collar 20 has an outer axially extending, split circumferential wall 24. *See id.* at 5, lines 10-11, FIG. 2. In use, the gasket 20 is stretched over the end 14a or 15a of one of the piping components 14, 15. *See id.* at 6, lines 11-12. The stretched gasket 30 forms seals with both ends 14a, 15a of the components 14, 15 being joined. *See id.* at 6, lines 14-15. The split ring ferrous collar 20 is then extended over the and around the gasket 30. *See id.* at 6, lines 13. According to the present invention, the gasket 30 or at least the inner circumferential side of the gasket 30, which is exposed to and which directly contacts the ends 14a, 15a of the joined piping components 14, 15 is covered with

a coating of dry cornstarch powder. *See id.* page 6, line 21 to page 7, line 1. While dry, powdered cornstarch is preferred, other dry, powdered organic starches such as rice starch and potato starch might alternatively be used. *See id.* at 8, lines 17-18. In addition, a powder predominantly or essentially composed of talc, i.e. magnesium silicate hydroxide ( $\text{Mg}_3\text{Si}_4\text{O}_{10}(\text{OH})_2$ ), which is the primary ingredient of conventional talcum powder, or that powder itself might be used as a dry lubricant. *See id.* at 8, lines 18-21. Corn, rice and potato starches, being natural ingredients derived from crops, can, with other similar naturally derived starches, be referred to generically as organic starch powder. *See id.* page 8, line 21 to page 9, line 1. The lubricant can include as a primarily component, one of the aforementioned individual materials in combination with lesser amount(s) of the other(s). *See id.* at 9, lines 1-2.

## **VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

Whether claims 1, 5-6, 10, 16 and 20-23 are unpatentable under 35 U.S.C. § 103(a) over U.S. Patent No. 6,302,450 to Dole et al. (“Dole”) in view of U.S. Patent No. 4,230,157 to Larsen et al. (“Larsen”) and Appellant’s Prior Art disclosure.

Whether claims 2-4, 7-9 and 17-19 are unpatentable under 35 U.S.C. § 103(a) over Dole in view of Larsen and Appellant’s Prior Art disclosure as applied to claims 1, 5 and 16, and further in view of U.S. Patent No. 5,070,597 to Holt et al. (“Holt”).

Whether claim 11 is unpatentable under 35 U.S.C. § 103(a) over Dole in view of Larsen and Appellant’s Prior Art disclosure as applied to claim 10, and further in view of U.S. Patent No. 5,540,465 to Sisk (“Sisk”).

Whether claim 12 is unpatentable under 35 U.S.C. § 103(a) over Dole in view of Larsen, Appellant’s Prior Art disclosure and Sisk as applied to claim 11, and further in view of U.S. Patent No. 5,642,907 to Dole (“Dole ‘907”).

Whether claims 13-15 are unpatentable under 35 U.S.C. § 103(a) over Dole in view of Larsen, Appellant’s Prior Art disclosure and Sisk as applied to claim 11, and further in view of Holt.

## VII. ARGUMENT

- A. Claims 1, 5-6, 10, 16 and 20-23 are not obvious over Dole in view of Larsen and Appellant's Prior Art disclosure.
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1. Claim 1 is not obvious over Dole in view of Larsen and Appellant's Prior Art disclosure

Independent claim 1 recites a pipe coupling that includes, *inter alia*, a tubular, one-piece, elastomeric member formed by a circumferential wall and at least a pair of circumferential flanges, and "a powder coating that provides a dry lubricant on at least the inner circumferential side of the pair of flanges." Claim 1 stands rejected under 35 U.S.C. § 103(a) as purportedly being unpatentable over Dole in view of Larsen and the Appellant's Prior Art Disclosure.

Dole shows and describes a segmented, high-strength pipe coupling 10 for connecting two pipes 100 and 200. Dole's Figure 5 shows a pipe coupling 10 that has a lubricated gasket 32 with respective inner circumferential surfaces (not labeled) in contact with the exterior surface of each pipe. *See* Dole column 5, lines 22-36. As the final Office Action acknowledged, Dole fails to show or describe the type of lubricant or its location on the gasket 32, and more specifically, the final Office Action acknowledges that Dole fails to show or describe a powder coating that provides a dry powder lubricant.

In an attempt to cure the deficiency of Dole and reach the claimed invention, the Examiner has asserted and continues to maintain that talcum powder is an art recognized equivalent for grease lubricant. *See* Examiner's Answer at 4 (citing Larsen at col. 6, lines 7-21). According to Larsen, Figure 1 shows a pipe end portion 1 with a circumferential groove 2 on which a sealing ring 3 is constrained within the groove 2. *See* Larsen col. 5, lines 26-30, FIG. 1. The sealing ring 3 includes a stiffening body or ring 5 to press the sealing ring 3 against the bottom of the groove 2 and prevent the sealing ring 3 from being forced out of the groove when the end 1a of another pipe is inserted into the pipe end portion 1. *See id.*, col. 5, lines 31-37. The sealing ring 3 of Larsen has circumferential lip portions 6 and 7, and the lip portion 6 is provided with a circumferential bead or ridge 8 along its free edge behind the stiffening body 5. According to Larsen, "[t]he dimensions of the ridge or bead 8 are such that when the second pipe

1a has been inserted, there is more volume of material between the outer wall 1a' of the second pipe and the bottom of the depression 2 than there is room for, and for this reason the sealing ring material must be displaced behind the stiffening body as well." *Id.*, col. 5, lines 55-61 (emphasis added). The lip material of sealing ring 3 is therefore both compressed and displaced upon insertion of the spigot end 1a of the pipe into the pipe end portion 1. *See id.*, col. 5, lines 66-68. Accordingly, lubricant 9 or 9', which can be a wet lubricant or dry lubricant, is provided to facilitate movement of various lip portions 6, 7 with respect to each other, the sealing ring 3 and the groove 2 when the second pipe end 1a is inserted into the first pipe 1. Larsen specifically requires the lubricant to be placed in two places: (1) between the lip portion 6 and the stiffening body 5 (i.e., lubricant 9'), and (2) between the lip portion 6 and the groove 2 (i.e., lubricant 9), as shown in Larsen's Figure 1 of Larsen. *See* Larsen col. 6, lines 7-21, FIG. 1.

To the extent Larsen may teach a particular application of talcum powder, Appellant maintains that Larsen fails to teach or suggest to one of ordinary skill in the relevant art to modify, in any way, the gasket of Dole. For example, Larsen fails to teach or suggest that a lubricant, whether a wet lubricant or dry lubricant, can be applied on an inner circumference of lip portion 7 in the seal ring 3 of Larsen, which forms a seal with the outer surface of pipe 1a. Instead, as illustrated above, Larsen teaches lubricating a sealing ring in order to facilitate relative movement with a stiffening body in the interior of the ring and a circumferential groove in which the sealing ring is located.

Given the specificity of the locations on which a dry powder lubricant is to be used in Larsen and the reasons for such locations, Larsen fails to provide any suggestion, motivation, or reason to combine features of Larsen with Dole so as to render obvious the claimed invention as a whole. Thus, even if Dole's gasket 32 could be modified in view of Larsen's dry lubricant, a proposition that Appellant does not accept, the references would still fail to teach each and every feature of the invention as recited in independent claim 1. The Examiner appears to agree; because in order to cure the deficiency, the Examiner continues to maintain that Appellant's purported Prior Art disclosure, page 1, lines 5-6, and page 6, of the application as originally filed, allegedly suggests lubricating at least the inner surface of Dole's gasket with the dry lubricant as allegedly taught by Larsen. The Examiner specifically asserts that:

[T]he applicant in the specification says it is well known to lubricate the inner circumferential surface of the gasket before installing in order to prevent damaging the seal during installation. It would seem obvious that if it is known one of ordinary skill would to [sic] use one type of lubricant on the inner circumference of a seal in order to prevent damaging the seal, that one of ordinary skill in the art when using a different lubricant would that [sic] lubricant to the same area so that the seal would not be damaged during installation.

Examiner's Answer at 5. Appellant respectfully disagrees with the Examiner's conclusions and submits that drawing such an inference from Appellant's specification is to improperly characterize any "Prior Art Disclosure" contained therein or alternatively, improperly uses Appellant's specification as a teaching or suggestion to combine Dole and Larsen so as to reach the claimed combination.

Page 6, line 15 to page 7, line 1 of Appellant's application as originally filed states

In order to prevent subsequent leakage, it is important that the circumferential inner side (i.e., the inner faces of the flange portions 33,34) of the gasket 30 not be scraped or cut when being mounted on the ends 14a, 15a of the piping components. Otherwise, the gasket 30 may leak through the damaged area. For that reason, such gaskets are typically coated with an oily liquid or greasy solid material so as to be more easily and safely slipped over the adjoining ends of the piping components. However, according to the present invention, instead of using a wet liquid or greasy solid, the gasket 30 or at least the inner circumferential side of the gasket 30 . . . is covered with a coating of dry cornstarch powder.

See Appln. No. 09/965,983 as-filed at 6, line 15 to page 7, line 1 (emphasis added). To the extent the passage relied upon by the Examiner contains a "Prior Art Disclosure," the disclosure maintains that gaskets were previously typically coated with an oily liquid or greasy solid. Nowhere does it state that it was known, prior to the claimed invention, to substitute the oily or greasy solid lubricant material with a dry powder. Rather, the specification expressly states, "according to the present invention, instead of using a wet liquid or greasy solid, the gasket 30 or at least the inner circumferential side of the gasket 30 . . . is covered with a coating of dry cornstarch powder." Accordingly, Appellant submits that the Examiner's finding of a teaching or suggestion to combine Larsen and Dole within Appellant's own specification misconstrues any "Prior Art Disclosure" contained therein, or at least is improper because it uses Appellant's own disclosure in attempt to establish a *prima facie* case of obviousness. MPEP 2143 at 2100-126 ("The teach or suggestion to make the claimed combination and the reasonable expectation

of success must both be found in the prior art, not in applicant's disclosure." (emphasis added) (citing *In re Vaek*, 947 F.2d 488, 20 USPQ.2d 1438 (Fed. Cir. 1991))). Thus, in the absence of Appellant's disclosure, a *prima facie* case of obviousness cannot be established and therefore the rejection cannot stand.

Thus, for at least any of these reasons, it is respectfully submitted that the rejection under 35 U.S.C. § 103(a) of independent claim 1 should be reversed, and that this claim is patentable over the applied prior art.

2. Claims 5, 6, and 21 are not obvious over Dole in view of Larsen and Appellant's Prior Art disclosure

Independent claim 5 recites a ferrous pipe coupling that includes, *inter alia*, a ferrous collar, a gasket in the form of a tubular, one-piece elastomeric member positioned in the collar having an exposed inner circumferential side having at least one flange that forms a seal with a pipe, and "a powder coating that provides a dry lubricant on at least the exposed, inner circumferential side." Claim 5 stands rejected under 35 U.S.C. § 103(a) as purportedly being unpatentable over Dole in view of Larsen and the Appellant's Prior Art disclosure.

Dole shows and describes a segmented, high-strength pipe coupling 10 for connecting two pipes 100 and 200. Dole's Figure 5 shows a pipe coupling 10 that has a lubricated gasket 32 with respective inner circumferential surfaces (not labeled) in contact with the exterior surface of each pipe. See Dole column 5, lines 22-36. As the final Office Action acknowledged, Dole fails to show or describe the type of lubricant or its location on the gasket 32. Thus, Dole fails to show or describe the combination of the collar, elastomeric member and dry powder as claimed.

In an attempt to cure the deficiency of Dole and reach the claimed invention, the Examiner has asserted and continues to maintain that talcum powder is an art recognized equivalent for grease lubricant. See Examiner's Answer at 4 (citing Larsen at col. 6, lines 7-21). According to Larsen, Figure 1 shows a pipe end portion 1 with a circumferential groove 2 on which a sealing ring 3 is constrained within the groove 2. See Larsen col. 5, lines 26-30, FIG. 1. The sealing ring 3 includes a stiffening body or ring 5 to press the sealing ring 3 against the bottom of the groove 2 and prevent the sealing ring 3 from being forced out of the groove when the end 1a of another pipe is inserted into the pipe end portion 1. See *id.*, col. 5, lines 31-37. The sealing ring 3 of Larsen has circumferential lip portions 6 and 7, and the lip portion 6 is

provided with a circumferential bead or ridge 8 along its free edge behind the stiffening body 5. According to Larsen, “[t]he dimensions of the ridge or bead 8 are such that when the second pipe 1a has been inserted, there is more volume of material between the outer wall 1a' of the second pipe and the bottom of the depression 2 than there is room for, and for this reason the sealing ring material must be displaced behind the stiffening body as well.” *Id.*, col. 5, lines 55-61 (emphasis added). The lip material of sealing ring 3 is therefore both compressed and displaced upon insertion of the spigot end 1a of the pipe into the pipe end portion 1. *See id.*, col. 5, lines 66-68. Accordingly, lubricant 9 or 9', which can be a wet lubricant or dry lubricant, is provided to facilitate movement of various lip portions 6, 7 with respect to each other, the sealing ring 3 and the groove 2 when the second pipe end 1a is inserted into the first pipe 1. Larsen specifically requires the lubricant to be placed in two places: (1) between the lip portion 6 and the stiffening body 5 (i.e., lubricant 9'), and (2) between the lip portion 6 and the groove 2 (i.e., lubricant 9), as shown in Larsen's Figure 1 of Larsen. *See Larsen col. 6, lines 7-21, FIG. 1.*

To the extent Larsen may teach a particular application of talcum powder, Appellant maintains that Larsen fails to teach or suggest to one of ordinary skill in the relevant art to modify, in any way, the gasket of Dole. For example, Larsen fails to teach or suggest that a lubricant, whether a wet lubricant or dry lubricant, can be applied on an inner circumference of lip portion 7 in the seal ring 3 of Larsen, which forms a seal with the outer surface of pipe 1a. Thus, nowhere in Larsen is it taught or suggested to apply a powder coating that provides a dry lubricant on an exposed inner circumferential side of a gasket in which the inner circumferential side has a flange that forms a seal with a pipe. Instead, as illustrated above, Larsen teaches lubricating a sealing ring in order to facilitate relative movement with a stiffening body in the interior of the ring and a circumferential groove in which the sealing ring is located.

Given the specificity of the locations on which a dry powder lubricant is to be used in Larsen and the reasons for such locations, Larsen fails to provide any suggestion, motivation, or reason to combine features of Larsen with Dole so as to render obvious the claimed invention as a whole. Thus, even if Dole's gasket 32 could be modified in view of Larsen's dry lubricant, a proposition that Appellant does not accept, the references would still fail to teach each and every feature of the invention as recited in independent claim 5. The Examiner appears to agree; because in order to cure the deficiency, the Examiner continues to maintain that Appellant's

purported Prior Art disclosure, page 1, lines 5-6, and page 6, of the application as originally filed, allegedly suggests lubricating at least the inner surface of Dole's gasket with the dry lubricant as allegedly taught by Larsen. The Examiner specifically asserts that:

[T]he applicant in the specification says it is well known to lubricate the inner circumferential surface of the gasket before installing in order to prevent damaging the seal during installation. It would seem obvious that if it is known one of ordinary skill would to [sic] use one type of lubricant on the inner circumference of a seal in order to prevent damaging the seal, that one of ordinary skill in the art when using a different lubricant would that [sic] lubricant to the same area so that the seal would not be damaged during installation.

Examiner's Answer at 5. Appellant respectfully disagrees with the Examiner's conclusions and submits that drawing such an inference from Appellant's specification is to improperly characterize any "Prior Art Disclosure" contained therein or alternatively, improperly uses Appellant's specification as a teaching or suggestion to combine Dole and Larsen so as to reach the claimed combination.

Page 6, line 15 to page 7, line 1 of Appellant's application as originally filed states

In order to prevent subsequent leakage, it is important that the circumferential inner side (i.e., the inner faces of the flange portions 33,34) of the gasket 30 not be scraped or cut when being mounted on the ends 14a, 15a of the piping components. Otherwise, the gasket 30 may leak through the damaged area. For that reason, such gaskets are typically coated with an oily liquid or greasy solid material so as to be more easily and safely slipped over the adjoining ends of the piping components. However, according to the present invention, instead of using a wet liquid or greasy solid, the gasket 30 or at least the inner circumferential side of the gasket 30 . . . is covered with a coating of dry cornstarch powder.

See Appln. No. 09/965,983 as-filed at 6, line 15 to page 7, line 1 (emphasis added). To the extent the passage relied upon by the Examiner contains a "Prior Art Disclosure," the disclosure maintains that gaskets were previously typically coated with an oily liquid or greasy solid. Nowhere does it state that it was known, prior to the claimed invention, to substitute the oily or greasy solid lubricant material with a dry powder. Rather, the specification expressly states, "according to the present invention, instead of using a wet liquid or greasy solid, the gasket 30 or at least the inner circumferential side of the gasket 30 . . . is covered with a coating of dry cornstarch powder." Accordingly, Appellant submits that the Examiner's finding of a teaching or suggestion to combine Larsen and Dole within Appellant's own specification

misconstrues any “Prior Art Disclosure” contained therein, or at least is improper because it uses Appellant’s own disclosure in attempt to establish a *prima facie* case of obviousness. MPEP 2143 at 2100-126 (“The teach or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant’s disclosure.” (emphasis added) (citing *In re Vaek*, 947 F.2d 488, 20 USPQ.2d 1438 (Fed. Cir. 1991))). Thus, in the absence of Appellant’s disclosure, a *prima facie* case of obviousness cannot be established and therefore the rejection cannot stand.

For at least any of these reasons, it is respectfully submitted that the rejection under 35 U.S.C. § 103(a) of independent claim 5 should be reversed, and that this claim is patentable over the applied prior art. Moreover, claims 6 and 21 depend from independent claim 5 and are therefore also patentable for at least the same reasons, as well as for the additionally recited features that further distinguish over the applied prior art.

3. Claims 10 and 22 are not obvious over Dole in view of Larsen and Appellant’s Prior Art disclosure

Independent claim 10 recites a piping system that includes, *inter alia*, a plurality of ferrous piping components and at least one ferrous pipe coupling joining the ends of a pair of the piping components and further including a ferrous collar, a gasket in the form of a tubular one-piece elastomeric member having an inner circumferential side sealingly mounted on the ends of the pair of piping components and “a powder coating that provides a dry lubricant at least between the at least one flange of the inner circumferential side of the gasket and the ends of the pair of piping components.” Claim 10 stands rejected under 35 U.S.C. § 103(a) as purportedly being unpatentable over Dole in view of Larsen and the Appellant’s Prior Art disclosure.

Dole shows and describes a segmented, high-strength pipe coupling 10 for connecting two pipes 100 and 200. Dole’s Figure 5 shows a pipe coupling 10 that has a lubricated gasket 32 with respective inner circumferential surfaces (not labeled) in contact with the exterior surface of each pipe. See Dole column 5, lines 22-36. As the final Office Action acknowledged, Dole fails to show or describe the type of lubricant or its location on the gasket 32. Thus, Dole fails to show or describe a piping system as claimed, and in particular, Dole fails to show or describe ferrous piping components as specifically claimed.

In an attempt to cure the deficiency of Dole and reach the claimed invention, the Examiner has asserted and continues to maintain that talcum powder is an art recognized equivalent for grease lubricant. *See* Examiner's Answer at 4 (citing Larsen at col. 6, lines 7-21). According to Larsen, Figure 1 shows a pipe end portion 1 with a circumferential groove 2 on which a sealing ring 3 is constrained within the groove 2. *See* Larsen col. 5, lines 26-30, FIG. 1. The sealing ring 3 includes a stiffening body or ring 5 to press the sealing ring 3 against the bottom of the groove 2 and prevent the sealing ring 3 from being forced out of the groove when the end 1a of another pipe is inserted into the pipe end portion 1. *See id.*, col. 5, lines 31-37. The sealing ring 3 of Larsen has circumferential lip portions 6 and 7, and the lip portion 6 is provided with a circumferential bead or ridge 8 along its free edge behind the stiffening body 5. According to Larsen, "[t]he dimensions of the ridge or bead 8 are such that when the second pipe 1a has been inserted, there is more volume of material between the outer wall 1a' of the second pipe and the bottom of the depression 2 than there is room for, and for this reason the sealing ring material must be displaced behind the stiffening body as well." *Id.*, col. 5, lines 55-61 (emphasis added). The lip material of sealing ring 3 is therefore both compressed and displaced upon insertion of the spigot end 1a of the pipe into the pipe end portion 1. *See id.*, col. 5, lines 66-68. Accordingly, lubricant 9 or 9', which can be a wet lubricant or dry lubricant, is provided to facilitate movement of various lip portions 6, 7 with respect to each other, the sealing ring 3 and the groove 2 when the second pipe end 1a is inserted into the first pipe 1. Larsen specifically requires the lubricant to be placed in two places: (1) between the lip portion 6 and the stiffening body 5 (i.e., lubricant 9'), and (2) between the lip portion 6 and the groove 2 (i.e., lubricant 9), as shown in Larsen's Figure 1 of Larsen. *See* Larsen col. 6, lines 7-21, FIG. 1.

To the extent Larsen may teach a particular application of talcum powder, Appellant maintains that Larsen fails to teach or suggest to one of ordinary skill in the relevant art to modify, in any way, the gasket of Dole. For example, Larsen fails to teach or suggest that a lubricant, whether a wet lubricant or dry lubricant, can be applied on an inner circumference of lip portion 7 in the seal ring 3 of Larsen, which forms a seal with the outer surface of pipe 1a. Thus, nowhere in Larsen is it taught or suggested that a powder coating can be applied to provide a dry lubricant at least between the flange of the inner circumferential side of the gasket and the ends of the ferrous piping components as claimed. Instead, as illustrated above, Larsen teaches

lubricating a sealing ring in order to facilitate relative movement with a stiffening body in the interior of the ring and a circumferential groove in which the sealing ring is located.

Given the specificity of the locations on which a dry powder lubricant is to be used in Larsen and the reasons for such locations, Larsen fails to provide any suggestion, motivation, or reason to combine features of Larsen with Dole so as to render obvious the claimed invention as a whole. Thus, even if Dole's gasket 32 could be modified in view of Larsen's dry lubricant, a proposition that Appellant does not accept, the references would still fail to teach each and every feature of the invention as recited in independent claim 10. Nowhere in Dole or Larsen is it taught or suggested to combine a powder coating with a plurality of ferrous piping components, a ferrous coupling and an elastomeric member as claimed. In particular, neither Dole nor Larsen teach ferrous piping components. Dole shows and describes a segmented pipe coupling 10 to join plain ends of two pipes, "which may be formed of polyvinyl chloride," *see* Dole, col. 4, lines 41-44, FIGS. 1-10, and Larsen is also silent with regards to ferrous piping. The Examiner appears to agree; because in order to cure the deficiency of Dole and Larsen, the Examiner continues to maintain that Appellant's purported Prior Art disclosure, page 1, lines 5-6, and page 6, of the application as originally filed, allegedly suggests lubricating at least the inner surface of Dole's gasket with the dry lubricant as allegedly taught by Larsen. The Examiner specifically asserts that:

[T]he applicant in the specification says it is well known to lubricate the inner circumferential surface of the gasket before installing in order to prevent damaging the seal during installation. It would seem obvious that if it is known one of ordinary skill would to [sic] use one type of lubricant on the inner circumference of a seal in order to prevent damaging the seal, that one of ordinary skill in the art when using a different lubricant would that [sic] lubricant to the same area so that the seal would not be damaged during installation.

Examiner' Answer at 5. Appellant respectfully disagrees with the Examiner's conclusions and submits that drawing such an inference from Appellant's specification is to improperly characterize any "Prior Art Disclosure" contained therein or alternatively, improperly uses Appellant's specification as a teaching or suggestion to combine Dole and Larsen so as to reach the claimed combination.

Page 6, line 15 to page 7, line 1 of Appellant's application as originally filed states

In order to prevent subsequent leakage, it is important that the circumferential inner side (i.e., the inner faces of the flange portions 33,34) of the gasket 30 not be scraped or cut when being mounted on the ends 14a, 15a of the piping components. Otherwise, the gasket 30 may leak through the damaged area. For that reason, such gaskets are typically coated with an oily liquid or greasy solid material so as to be more easily and safely slipped over the adjoining ends of the piping components. However, according to the present invention, instead of using a wet liquid or greasy solid, the gasket 30 or at least the inner circumferential side of the gasket 30 . . . is covered with a coating of dry cornstarch powder.

See Appln. No. 09/965,983 as-filed at 6, line 15 to page 7, line 1 (emphasis added). To the extent the passage relied upon by the Examiner contains a “Prior Art Disclosure,” the disclosure maintains that gaskets were previously typically coated with an oily liquid or greasy solid. Nowhere does it state that it was known, prior to the claimed invention, to substitute the oily or greasy solid lubricant material with a dry powder. Rather, the specification expressly states, “according to the present invention, instead of using a wet liquid or greasy solid, the gasket 30 or at least the inner circumferential side of the gasket 30 . . . is covered with a coating of dry cornstarch powder.” Accordingly, Appellant submits that the Examiner’s finding of a teaching or suggestion to combine Larsen and Dole within Appellant’s own specification misconstrues any “Prior Art Disclosure” contained therein, or at least is improper because it uses Appellant’s own disclosure in attempt to establish a *prima facie* case of obviousness. MPEP 2143 at 2100-126 (“The teach or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant’s disclosure.” (emphasis added) (citing *In re Vaek*, 947 F.2d 488, 20 USPQ.2d 1438 (Fed. Cir. 1991))). Absent the benefit of Appellant’s originally filed application, there is no suggestion or motivation to provide a powder coating in combination with a gasket and ferrous piping components as claimed. Thus, in the absence of Appellant’s disclosure, a *prima facie* case of obviousness cannot be established and therefore the rejection cannot stand.

For at least any of these reasons, it is respectfully submitted that the rejection under 35 U.S.C. § 103(a) of independent claim 10 should be reversed, and that this claim is patentable over the applied prior art. Moreover, claim 22 depends from independent claim 10 and is therefore also patentable for at least the same reasons, as well as for the additionally recited features that further distinguish over the applied prior art.

4. Claims 16, 20 and 23 are not obvious over Dole in view of Larsen and Appellant's Prior Art disclosure

Independent claim 16 recites an improvement in a ferrous pipe couplings that includes, *inter alia*, an elastomeric gasket having at least one flange, a ferrous collar surrounding the gasket, and the improvement which includes "a powder coating that provides a dry lubricant on at least an inner circumferential side of the at least one flange of the gasket that forms a seal with a ferrous pipe." Claim 16 stands rejected under 35 U.S.C. § 103(a) as purportedly being unpatentable over Dole in view of Larsen and the Appellant's Prior Art disclosure.

Dole shows and describes a segmented, high-strength pipe coupling 10 for connecting two pipes 100 and 200. Dole's Figure 5 shows a pipe coupling 10 that has a lubricated gasket 32 with respective inner circumferential surfaces (not labeled) in contact with the exterior surface of each pipe. *See* Dole column 5, lines 22-36. As the final Office Action acknowledged, Dole fails to show or describe the type of lubricant or its location on the gasket 32. Thus, Dole fails to show or describe the ferrous coupling and its improvement as claimed. In particular, Dole fails to show or describe a ferrous pipe as specifically claimed.

In an attempt to cure the deficiency of Dole and reach the claimed invention, the Examiner has asserted and continues to maintain that talcum powder is an art recognized equivalent for grease lubricant. *See* Examiner's Answer at 4 (citing Larsen at col. 6, lines 7-21). According to Larsen, Figure 1 shows a pipe end portion 1 with a circumferential groove 2 on which a sealing ring 3 is constrained within the groove 2. *See* Larsen col. 5, lines 26-30, FIG. 1. The sealing ring 3 includes a stiffening body or ring 5 to press the sealing ring 3 against the bottom of the groove 2 and prevent the sealing ring 3 from being forced out of the groove when the end 1a of another pipe is inserted into the pipe end portion 1. *See id.*, col. 5, lines 31-37. The sealing ring 3 of Larsen has circumferential lip portions 6 and 7, and the lip portion 6 is provided with a circumferential bead or ridge 8 along its free edge behind the stiffening body 5. According to Larsen, "[t]he dimensions of the ridge or bead 8 are such that when the second pipe 1a has been inserted, there is more volume of material between the outer wall 1a' of the second pipe and the bottom of the depression 2 than there is room for, and for this reason the sealing ring material must be displaced behind the stiffening body as well." *Id.*, col. 5, lines 55-61 (emphasis added). The lip material of sealing ring 3 is therefore both compressed and displaced

upon insertion of the spigot end 1a of the pipe into the pipe end portion 1. *See id.*, col. 5, lines 66-68. Accordingly, lubricant 9 or 9', which can be a wet lubricant or dry lubricant, is provided to facilitate movement of various lip portions 6, 7 with respect to each other, the sealing ring 3 and the groove 2 when the second pipe end 1a is inserted into the first pipe 1. Larsen specifically requires the lubricant to be placed in two places: (1) between the lip portion 6 and the stiffening body 5 (i.e., lubricant 9'), and (2) between the lip portion 6 and the groove 2 (i.e., lubricant 9), as shown in Larsen's Figure 1 of Larsen. *See* Larsen col. 6, lines 7-21, FIG. 1.

To the extent Larsen may teach a particular application of talcum powder, Appellant maintains that Larsen fails to teach or suggest to one of ordinary skill in the relevant art to modify, in any way, the gasket of Dole. For example, Larsen fails to teach or suggest that a lubricant, whether a wet lubricant or dry lubricant, can be applied on an inner circumference of lip portion 7 in the seal ring 3 of Larsen, which forms a seal with the outer surface of pipe 1a. Thus, nowhere in Larsen is it taught or suggested that a powder coating can be applied to provide a dry lubricant on at least one flange of the inner circumferential side of a gasket which forms a seal with a ferrous pipe as claimed. Instead, as illustrated above, Larsen teaches lubricating a sealing ring in order to facilitate relative movement with a stiffening body in the interior of the ring and a circumferential groove in which the sealing ring is located.

Given the specificity of the locations on which a dry powder lubricant is to be used in Larsen and the reasons for such locations, Larsen fails to provide any suggestion, motivation, or reason to combine features of Larsen with Dole so as to render obvious the claimed invention as a whole. Thus, even if Dole's gasket 32 could be modified in view of Larsen's dry lubricant, a proposition that Appellant does not accept, the references would still fail to teach each and every feature of the invention as recited in independent claim 16. Nowhere in Dole or Larsen is it taught or suggested to combine a powder coating with a plurality of ferrous piping components, a ferrous coupling and an elastomeric member as claimed. In particular, neither Dole nor Larsen teach ferrous piping components. Dole shows and describes a segmented pipe coupling 10 to join plain ends of two pipes, "which may be formed of polyvinyl chloride," *see* Dole, col. 4, lines 41-44, FIGS. 1-10, and Larsen is also silent with regards to ferrous piping. The Examiner appears to agree; because in order to cure the deficiency of Dole and Larsen, the Examiner continues to maintain that Appellant's purported Prior Art disclosure, page 1, lines 5-6, and page

6, of the application as originally filed, allegedly suggests lubricating at least the inner surface of Dole's gasket with the dry lubricant as allegedly taught by Larsen. The Examiner specifically asserts that:

[T]he applicant in the specification says it is well known to lubricate the inner circumferential surface of the gasket before installing in order to prevent damaging the seal during installation. It would seem obvious that if it is known one of ordinary skill would to [sic] use one type of lubricant on the inner circumference of a seal in order to prevent damaging the seal, that one of ordinary skill in the art when using a different lubricant would that [sic] lubricant to the same area so that the seal would not be damaged during installation.

Examiner's Answer at 5. Appellant respectfully disagrees with the Examiner's conclusions and submits that drawing such an inference from Appellant's specification is to improperly characterize any "Prior Art Disclosure" contained therein or alternatively, improperly uses Appellant's specification as a teaching or suggestion to combine Dole and Larsen so as to reach the claimed combination.

Page 6, line 15 to page 7, line 1 of Appellant's application as originally filed states

In order to prevent subsequent leakage, it is important that the circumferential inner side (i.e., the inner faces of the flange portions 33,34) of the gasket 30 not be scraped or cut when being mounted on the ends 14a, 15a of the piping components. Otherwise, the gasket 30 may leak through the damaged area. For that reason, such gaskets are typically coated with an oily liquid or greasy solid material so as to be more easily and safely slipped over the adjoining ends of the piping components. However, according to the present invention, instead of using a wet liquid or greasy solid, the gasket 30 or at least the inner circumferential side of the gasket 30 . . . is covered with a coating of dry cornstarch powder.

See Appl. No. 09/965,983 as-filed at 6, line 15 to page 7, line 1 (emphasis added). To the extent the passage relied upon by the Examiner contains a "Prior Art Disclosure," the disclosure maintains that gaskets were previously typically coated with an oily liquid or greasy solid. Nowhere does it state that it was known, prior to the claimed invention, to substitute the oily or greasy solid lubricant material with a dry powder. Rather, the specification expressly states, "according to the present invention, instead of using a wet liquid or greasy solid, the gasket 30 or at least the inner circumferential side of the gasket 30 . . . is covered with a coating of dry cornstarch powder." Accordingly, Appellant submits that the Examiner's finding of a teaching or suggestion to combine Larsen and Dole within Appellant's own specification

misconstrues any “Prior Art Disclosure” contained therein, or at least is improper because it uses Appellant’s own disclosure in attempt to establish a *prima facie* case of obviousness. MPEP 2143 at 2100-126 (“The teach or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant’s disclosure.” (emphasis added) (citing *In re Vaek*, 947 F.2d 488, 20 USPQ.2d 1438 (Fed. Cir. 1991))). In the absence of Appellant’s disclosure, a *prima facie* case of obviousness cannot be established and therefore the rejection cannot stand. Accordingly, absent the benefit of Appellant’s originally filed application, Dole and Larsen, whether taken alone or in combination, fail to teach or suggest a ferrous coupling and an improvement thereof as claimed so as to fail to teach Appellant’s invention as a whole.

For at least any of these reasons, it is respectfully submitted that the rejection under 35 U.S.C. § 103(a) of independent claim 16 should be reversed, and that this claim is patentable over the applied prior art. Moreover, claims 20 and 23 depend, directly or indirectly, from independent claim 16 and are therefore also patentable for at least the same reasons, as well as for the additionally recited features that further distinguish over the applied prior art.

B. Claims 2-4, 7-9 and 17 -19 are not obvious over Dole in view of Larsen and Appellant’s Prior Art disclosure, and further in view of Holt

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According to the Office Action, claims 2-4, 7-9 and 17 -19 stand rejected under 35 U.S.C. § 103(a) as purportedly being unpatentable over Dole in view of Larsen and the Appellant’s Prior Art disclosure as applied to claims 1, 5 and 16 and further in view of Holt. Contrary to the assertions in the Examiner’s Answer at page 6 and as discussed above, Dole and/or Larsen, alone or in combination with Appellant’s Prior Art disclosure, does not teach or suggest applying a powder to provide a dry lubricant on an inner circumferential side of a gasket having a flange. Appellant again submits that Holt fails to cure the deficiencies in the proposed combination of Dole in view of Larsen and Appellant’s own disclosure as discussed above. Specifically, Holt fails to teach or suggest, at the time the invention was made, a powder coating that provides a dry lubricant on at least the inner circumferential surface of the gasket so as to cure the above-noted deficiencies of Dole in view of Larsen.

Holt shows an elastomeric double-walled tube 1 to connect two pipes 22 together. Holt states that the double walled tube 1 is provided with friction reducing means 4 disposed between

the walls. *See* Holt column 8, lines 57-66. Holt's friction reducing means 4 can be of a solid, semi-solid, or liquid lubricant. *See* Holt column 9, lines 26-28, column 12, lines 1-18 and 65-68, and column 13, lines 3-15. However, Holt is completely silent as to a powder coating of the friction reducing means 4.

Thus, for at least any of these reasons, it is respectfully submitted that the rejection under 35 U.S.C. § 103(a) of claims 2-4, 7-9 and 17-19 should be reversed, and that these claims are patentable over the applied prior art.

C. Claim 11 is not obvious over Dole in view of Larsen and Appellant's Disclosure as applied to claim 10, and further in view of Sisk

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According to the Office Action, claim 11 stands rejected under 35 U.S.C. § 103(a) as purportedly being unpatentable over Dole in view of Larsen and the Appellant's Disclosure as applied to claim 10, and further in view of Sisk. Contrary to the assertions in the Examiner's Answer at page 6 and as discussed above, Dole and/or Larsen, alone or in combination with Appellant's Prior Art disclosure, does not teach or suggest applying a powder to provide a dry lubricant on an inner circumferential side of a gasket having a flange. Appellant again submits that Sisk fails to cure the deficiencies in the proposed combination of Dole in view of Larsen and Appellant's own disclosure as discussed above. Specifically, Sisk fails to teach or suggest, at the time the invention was made, a powder coating that provides a dry lubricant on at least the inner circumferential surface of the gasket so as to cure the above-noted deficiencies of Dole and Larsen.

Sisk shows and describes a pipe coupler 30 with clamping arms 32 and 34 for a gasket 150. *See* Sisk column 4, lines 54-64, and column 5, lines 9-21. Sisk, however, fails to show or describe any lubricant anywhere on the gasket 150. Consequently, Sisk fails to teach or suggest a powder coating such that Sisk would cure the deficiencies of Dole in view of Larsen.

Thus, for at least any of these reasons, it is respectfully submitted that the rejection under 35 U.S.C. § 103(a) of claim 11 should be reversed, and that this claim is patentable over the applied prior art.

D. Claim 12 is not obvious over Dole in view of Larsen and Appellant's Prior Art disclosure as applied to claim 11, and further in view of Dole '907

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According to the Office Action, claim 12 stands rejected under 35 U.S.C. § 103(a) as purportedly being unpatentable over Dole in view of Larsen and the Appellant's Disclosure and Sisk as applied to claim 11, and further in view of Dole '907. Contrary to the assertions in the Examiner's Answer at page 6 and as discussed above, Dole and/or Larsen, alone or in combination with Appellant's Prior Art disclosure, does not teach or suggest applying a powder to provide a dry lubricant on an inner circumferential side of a gasket having a flange. Appellant again submits that Dole '907 fails to cure the deficiencies in the proposed combination of Dole in view of Larsen and Appellant's own disclosure. Specifically, Dole '907 fails to teach or suggest, at the time the invention was made, a powder coating that provides a dry lubricant on at least the inner circumferential surface of the gasket so as to cure the above-noted deficiencies of Dole in view of Larsen.

Dole '907 shows and describes an end fitting 10 with an elastomeric seal 18. *See* Dole '907 column 4, lines 24-31. Dole '907, however, fails to show or describe any type of lubricant anywhere on the seal 18. Consequently, Dole '907 fails to teach or suggest a powder coating such that Dole '907 would cure the deficiencies of Dole in view of Larsen and Sisk. Accordingly, it is respectfully submitted that the rejection under 35 U.S.C. § 103(a) of claim 12 should be withdrawn, and that this claim is allowable over the applied prior art.

E. Claims 13-15 are not obvious over Dole in view of Larsen and Appellant's Disclosure and Sisk as applied to claim 11, and further in view of Holt

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According to the Office Action, claims 13-15 stand rejected under 35 U.S.C. § 103(a) as purportedly being unpatentable over Dole in view of Larsen and the Appellant's Disclosure and Sisk as applied to claim 11, and further in view of Holt. Contrary to the assertions in the Examiner's Answer at page 6 and as discussed above, Dole and/or Larsen, alone or in combination with Appellant's Prior Art disclosure, does not teach or suggest applying a powder to provide a dry lubricant on an inner circumferential side of a gasket having a flange. Appellant again submits that, as noted above, Sisk and Holt fail to cure the deficiencies in the proposed combination of Dole in view of Larsen and Appellant's own disclosure. Specifically, Sisk and Holt fail to teach or suggest, at the time the invention was made, a powder coating that provides

a dry lubricant on at least the inner circumferential surface of the gasket so as to cure the above-noted deficiencies of Dole in view of Larsen.

Sisk shows and describes a pipe coupler 30 with clamping arms 32 and 34 for a gasket 150. *See* Sisk column 4, lines 54-64, and column 5, lines 9-21. Sisk, however, fails to show or describe any lubricant anywhere on the gasket 150. Consequently, Sisk fails to teach or suggest a powder coating such that Sisk would cure the deficiencies of Dole and Larsen.

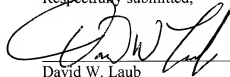
Holt's shows an elastomeric double-walled tube 1 to connect two pipes 22 together. Holt states that the double walled tube 1 is provided with friction reducing means 4 disposed between the walls. *See* Holt column 8, lines 57-66. Holt's friction reducing means 4 can be of a solid, semi-solid, or liquid lubricant. *See* Holt column 9, lines 26-28, column 12, lines 1-18 and 65-68, and column 13, lines 3-15. However, Holt is completely silent as to a powder coating of the friction reducing means 4.

Thus, for at least any of these reasons, it is respectfully submitted that the rejection under 35 U.S.C. § 103(a) of claims 13-15 should be reversed, and that these claims are patentable over the applied prior art.

\* \* \*

In view of the above arguments and evidence of record, Appellant respectfully requests the Board to reverse the rejection of claims 1-23.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'David W. Laub', written over a horizontal line.

David W. Laub  
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Date: March 30, 2007

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## VIII. CLAIMS APPENDIX

1. A lubricated ferrous pipe coupling gasket comprising:
  - a generally tubular, one-piece, elastomeric member with first and second axial open ends, the member being formed by a circumferential wall and at least a pair of circumferential flanges, each flange extending at least generally radially inwardly at a separate one of the first and second axial open ends of the member, the circumferential wall and the pair of circumferential flanges forming at least one circumferential channel on an inner circumferential side of the member; and
  - a powder coating that provides a dry lubricant on at least the inner circumferential side of the pair flanges of the member.
2. The gasket of claim 1 wherein the dry lubricant comprises an organic starch powder.
3. The gasket of claim 1 wherein the dry lubricant consists essentially of organic starch powder.
4. The gasket of claim 1 wherein the dry lubricant is selected from the group consisting of cornstarch, rice starch, potato starch, talc and magnesium silicate hydroxide.
5. A ferrous pipe coupling comprising:
  - a ferrous collar having an outer, axially extending, axially split circumferential wall with at least one pair of adjoining circumferential ends at the split;
  - at least one fastener releasably securing together the at least one pair of adjoining, circumferential ends of the collar;
  - a gasket in the form of a generally tubular, one-piece elastomeric member positioned in the collar and having an exposed inner circumferential side exposed in the collar, the inner circumferential side having at least one flange that forms a seal with a pipe; and
  - a powder coating that provides a dry lubricant on at least the exposed, inner circumferential side of the elastomeric member.
6. The ferrous pipe coupling of claim 5 wherein the ferrous collar includes a pair of at least generally radially inwardly extending circumferential flanges, each flange being located at a

separate axial end of the circumferential wall, the pair of flanges and the circumferential wall forming a circumferential channel on an inner circumferential side of the collar and wherein the gasket is positioned in the channel.

7. The coupling of claim 5 wherein the dry lubricant comprises an organic starch powder.
8. The coupling of claim 5 wherein the dry lubricant consists essentially of organic starch powder.
9. The coupling of claim 5 wherein the dry lubricant is selected from the group consisting of cornstarch, rice starch, potato starch, talc and magnesium silicate hydroxide.
10. A ferrous piping system comprising:
  - a plurality of ferrous piping components; and
  - at least one ferrous pipe coupling mechanically and fluidly joining together ends of a pair of the piping components at a joint, the ferrous pipe coupling including:
    - a ferrous collar having an outer, axially extending and axially split, circumferential wall and at least one pair of adjoining circumferential ends at the split;
    - a gasket in the form of a generally tubular, one-piece elastomeric member having an inner circumferential side, the inner circumferential side including at least sealingly mounted on the ends of the pair of piping components and surrounded by the collar;
    - a powder coating that provides a dry lubricant at least between the at least one flange of the inner circumferential side of the gasket and the ends of the pair of piping components; and
    - at least one fastener releasably securing together a pair of adjoining, circumferential ends of the collar so as to compress the gasket and the collar on the ends of the pair of piping components.

11. The ferrous piping system of claim 10 further comprising:  
a one-way valve coupled with the plurality of piping components a potable water supply, the valve being arranged to supply water from the potable water supply to the plurality piping components.
12. The ferrous piping system of claim 11, wherein one of the plurality of piping components is a fitting and further comprising a fire sprinkler coupled with the fitting to be supplied with water by the potable water source through the piping system.
13. The ferrous piping system of claim 11 wherein the dry lubricant comprises an organic starch powder.
14. The ferrous piping system of claim 11 wherein the dry lubricant consists essentially of organic starch powder.
15. The ferrous piping system of claim 11 wherein the dry lubricant is selected from the group consisting of one of cornstarch, rice starch, potato starch, talc and magnesium silicate hydroxide.
16. In a ferrous pipe coupling including a generally tubular, one-piece, elastomeric gasket having at least one flange, a ferrous collar surrounding the gasket, the collar including at least one axial split defining a pair of adjoining circumferential ends, and a fastener releasably securing together the adjoining circumferential ends of the collar, the improvement including a powder coating that provides a dry lubricant on at least an inner circumferential side of the at least one flange of the gasket that forms a seal with a ferrous pipe.
17. The improvement of claim 16 wherein the dry lubricant comprises an organic starch powder.
18. The improvement of claim 16 wherein the dry lubricant consists essentially of organic starch powder.

19. The improvement of claim 16 wherein the dry lubricant is selected from the group consisting of cornstarch, rice starch, potato starch, talc and magnesium silicate hydroxide.
20. The improvement of claim 16 wherein the dry lubricant coats all circumferential surfaces of the gasket.
21. The ferrous pipe coupling of claim 5, wherein the gasket comprises a pair of circumferential flanges formed on the exposed inner circumferential side of the gasket.
22. The ferrous pipe system of claim 10, wherein the gasket comprises a pair of circumferential flanges formed on the inner circumferential side of the gasket.
23. The improvement of claim 20, wherein the dry lubricant coats a pair of flanges formed on the circumferential surface of the gasket.

## IX. EVIDENCE APPENDIX

The following is a list of references entered by the Examiner and/or relied upon by Appellant in this appeal, along with a statement setting forth where in the record that evidence was entered by the examiner and/or the Appellant. Copies of each piece of evidence were provided with the Amended Appeal Brief filed November 10, 2006.

Reference	Location in the Record
1. Schultz et al (U.S. Patent No. 6,371,491).	Appellant's Amendment and Request for Reconsideration Under 37 C.F.R. § 1.111, filed 8 August 2005, page 6, lines 11-27; Information Disclosure Statement, filed 26 November 2002.
2. Dole et al. (U.S. Patent No. 6,302,450)	Final Office Action issued 26 October 2005 (pages 2-7); Information Disclosure Statement, filed 17 July 2002.
3. Larsen et al. (U.S. Patent No. 4,230,157)	Final Office Action issued 26 October 2005 (pages 2-7); Information Disclosure Statement, filed 17 July 2002.
4. Appellant's Prior Art disclosure	Final Office Action issued 26 October 2005 (pages 2-7); Information Disclosure Statement, filed 26 February 2002.
5. Holt et al. (U.S. Patent No. 5,070,597)	Final Office Action issued 26 October 2005 (page 7); Information Disclosure Statement, filed 26 February 2002.
6. Sisk (U.S. Patent No. 5,540,465)	Final Office Action issued 26 October 2005 (pages 8); Information Disclosure Statement, filed 17 July 2002.
7. Dole (U.S. Patent No. 5,642,907)	Final Office Action issued 26 October 2005 (pages 8); Information Disclosure Statement, filed 17 July 2002.

**X. RELATED PROCEEDINGS APPENDIX**

None